

(12) United States Patent

(10) Patent No.: US 6,322,336 B1
(45) Date of Patent: Nov. 27, 2001

(54) LUBRICATING DEVICE FOR A PLURALITY OF LUBRICATING STATIONS

4,489,684 *	12/1984	Yamada	123/198 F
4,528,965 *	7/1985	Gibson et al.	123/502
4,632,648 *	12/1986	Goyae	417/502
4,674,964 *	6/1987	Hertell	418/60
4,944,367	7/1990	Nelson et al.	184/29
5,181,585 *	1/1993	Braun et al.	184/7.4

(75) Inventor: Rolf Huss, Lossburg (DE)

(73) Assignee: Memminger-Iro GmbH, Dornstetten
(DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/497,621

(22) Filed: Feb. 3, 2000

(30) Foreign Application Priority Data

Feb. 5, 1999 (DE) 199 04 647

(51) Int. Cl.⁷ F04B 39/00; F04B 7/04;
F04B 23/00; F16H 27/02; F16H 55/18

(52) U.S. Cl. 417/442; 417/494; 417/502;
74/127; 74/409

(58) **Field of Search** 417/502, 493,
417/494, 224, 326, 442, 223; 74/127, 409,
491, 128

(56) References Cited

U.S. PATENT DOCUMENTS

1,776,509 *	9/1930	Hulshizer	74/127
2,039,941 *	5/1936	Terry	121/7
3,320,892 *	5/1967	Wolff	103/2

FOREIGN PATENT DOCUMENTS

908689	4/1954	(DE)
40 21 557 A1	1/1992	(DE)
0 499 810 B1	3/1995	(EP)
1094985	5/1955	(FR)
1502920	3/1978	(GB)

* cited by examiner

Primary Examiner—Charles G. Freay

Assistant Examiner—Timothy P. Solak

(74) *Attorney, Agent, or Firm*—Frishauf, Holtz, Goodman, Langer & Chick, P.C.

(57) ABSTRACT

In a lubricating device for a plurality of lubricating stations, in particular for supplying lubricant to knitting machines, a pump device is provided that serves at the same time as a distributor device. To that end, the pump device has a piston which is provided with a control groove. The corresponding pump cylinder has an inlet and a plurality of outlets distributed over the cylinder wall. Depending on which of the outlets the control groove of the piston is made to coincide with, a corresponding lubricating station is selected. The pump device is thus a distributor device as well.

23 Claims, 6 Drawing Sheets

